Historic land use and grazing patterns in northern New Mexico

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Abstract.-The entrance of the Spanish into what is now New Mexico in the 1500s permanently altered aboriginal land use and subsistence patterns by the introduction of domesticated animals such as horses, cattle. sheep, goats, and pigs. During the Spanish Colonial and Mexican periods, both the Puebloan groups and the Hispanic settlers practiced mixed farming featuring small numbers of livestock pastured in communal grazing areas. After New Mexico became a United States Territory, large-scale ranching ventures also developed in the area. The rapid rise in stock numbers associated with the commercial ranching ventures, combined with 250 years of grazing around the existing small communities, led to degradation of land and water resources both in the uplands and in riparian areas. Large-scale efforts to reduce stocking and restore degraded lands have been undertaken by the federal government since the early 1900s. Yet grazing on federal lands remains a topic of controversy and debate, as well as an important aspect of the lifeway of the small Hispanic communities of the region. If the traditional lifeways of these communities are to survive, means must be found to balance the goals of ecosystem restoration with the stock raising needs of the small villages.

INTRODUCTION

In order to understand the complex issues surrounding livestock grazing on federal lands in northern New Mexico, it is necessary to understand the historical background of American Indian, Hispano, and Anglo-American patterns of subsistence and land use. To a very real extent, the cultural values and traditions of these groups are rooted in and developed from the subsistence practices of the past. If cultural diversity and intergroup tolerance are to be encouraged, an understanding of the roots of these cultural differences must be fostered.

This study focuses on a review of the subsistence practices of the rural Hispano villagers from 1598 to the present. It explores the effect of the conversion of community grazing lands to National Forest lands in the twentieth century on rural Hispano economics. Ongoing problems between the Hispano villagers and the Forest Service over grazing and other forest uses, which occasioned violent protest in the late 1960s, are examined in terms of present-day efforts at finding appropriate solutions.

THE SPANISH COLONIAL PERIOD

When the Spaniards arrived in Mexico in 1519, they set in motion not only the political conquest of North America but also the biological conquest of the continent. With the introduction of their domesticated plants and animals, they forever altered the flora, fauna, and landscape of the continent (Crosby 1972; Melville 1994). This conquest was effectively extended into what is now New Mexico with colonization of the region in

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1598 by Juan de Oñate. He brought with him 400 soldiers, colonists, friars, and Mexican Indian servants. In addition to these two-legged colonists, his four-legged colonists included cattle, goats, sheep, and horses (Hammond and Rey 1953(1):215, 390; Baxter 1987:4). Patterns of conflicting resource use in the Rio Grande Basin began in this earliest period of European colonization. The Spanish brought new technologies, subsistence strategies, and domesticates into the valley and introduced them into the existing native agricultural system. The colonists altered native farming practices by redirecting the agricultural emphasis away from extensive floodwater farming using water control and soil retention techniques to a reliance on intensive irrigation agriculture from major watercourses (Earls 1985:179-181; Wozniak 1995). Though riverine areas had always been favored farming and settlement locations, they became even more intensively utilized after European occupation.

Throughout the 1600s, Pueblo Indian populations declined primarily as a result of introduced diseases and famine caused by a series of severe droughts and destruction of food stores by raids from nomadic Indian groups. As the native population declined, the tribute and labor requirements of the colonists became more onerous. These conditions, along with forced relocations and missionization, led to the Pueblo Revolt of 1680. During this rebellion, the Spanish, or Hispanos, were forced out of the Rio Grande for 12 years. They returned in the period from 1692-1696 when Diego de Vargas initiated and completed the reconquest of New Mexico for the Crown.

From the recolonization of the reconquest, Hispano populations rose throughout the 1700s to approximately 25,000 by the latter part of the century. Even so, the significant population declines of the Puebloan groups left sufficient available land for both groups to survive as irrigation agriculturalists and stock raisers along the main waterways and their tributaries (Simmons 1979:182). During both the Spanish Colonial and Mexican periods, land use and ownership were confirmed by land grants from the Spanish Crown or Mexican government after independence. Land grants were of several types, with community grants, given to a group of settlers in common, of particular interest to this study (Harper et al. 1943:18-19; Eastman et al. 1971:4). The Spanish grants averaged 64,000 acres in size while some of the later Mexican grants were considerably larger (Eastman and Gray 1987). Within community grants, settlers received individually owned building sites in the village proper and agricultural plots of irrigated land near the ditch or stream. The irrigated plots were often quite small, averaging from 5-10 acres (Van Ness 1987:172). They also tended to grow smaller as they were divided for purposes of inheritance. The villagers also used or owned in common the village grazing lands, timber lands, and community pastures (Eastman et al. 1971:4). The fact that groups of kinsmen often tilled their fields cooperatively and herded their animals together assisted them in managing the small-sized, scattered plots.

Throughout the Spanish and Mexican periods, a subsistence, agro-pastoral economy based in small, scattered villages prevailed along the Rio Grande and its tributaries such as the Rio Chama. Information on the community of Cañones (Van Ness 1987) provides a good description of the importance of stock raising to the Hispano villagers and of its integration into the agro-pastoral system. Both animal and plant production were joined together in a true mixed farming system. The most important stock for food were sheep and goats, with small stock outnumbering cattle by as much as twenty to one. Average households probably owned from 50 to 100 head of all types of stock, with only the wealthiest of the community having larger herds. Livestock were used to plow the fields, to thresh the grain, to transport the produce, and to manure the fields. The farming side of the economy provided winter fodder and stubble grazing for the animals in the cleared fields. The community stock, individually owned but cooperatively grazed, were moved into the higher elevation pastures during the spring and summer and returned to the village after the harvest to graze and manure the stubble fields (Van Ness 1987:188-191).

The basic goal of the village economy was production for local subsistence, not for competition in a commercial market. During the 1700s and the earlier portion of the 1800s, nearby markets were limited and ready transportation to more distant markets was non-existent. In addition, raids by nomadic groups severely limited range

expansion. Even with the relatively small numbers of stock produced by the subsistence economy, however, concentration of the animals near the villages produced some areas of overgrazing in the Rio Grande Valley, in wetlands near communities, and in nearby upland grazing areas (cf.Baxter 1987:23; Elson 1992; Scurlock 1995a:4). Traditional grazing practices offered little respite for the land, but herd sizes were small and the land base was large. Herders had little trouble finding new and better pastures for their animals (Rothman 1989:196-197). Thus, relatively small populations of both humans and animals were able to utilize the resources of the Basin in a successful manner over the long time span of the Spanish Colonial period.

THE MEXICAN PERIOD

Overgrazing in favored areas intensified during the Mexican period from 1821-1846 as commercial production of sheep began to increase substantially (Scurlock 1995a:4). Even in 1802, during the Late Colonial period, there were sufficient sheep for local consumption and for traders to market ca. 26,000 annually in the southern markets. Throughout the Spanish and Mexican periods, external commerce depended on caravans from Santa Fe to El Paso and points further south, primarily Chihuahua and Durango. By 1827, the livestock industry in New Mexico tallied almost one quarter million sheep and goats but only about 5000 cattle and 3000 horses and mules. During this period, the developing commercial sheep operations began to seek additional pasture lands to the east and in the plains beyond the Sandia and Manzano Mountains, grazing these areas for the first time (cf. Baxter 1987:69,90,92-95). By the end of the Mexican period, serious range deterioration was noted by American military personnel entering the Rio Grande Valley (cf. Elson 1992). Areas of poor range condtion occurred from Santo Domingo to Taos in the north and from Cochiti to Socorro in the south. In addition, the middle Rio Puerco was already noted for poor forage conditions as were the Navajo lands higher up the Rio Puerco drainage. Thus, prior to Anglo-American occupation, areas along major drainages near settlements and in the Navajo lands were suffering the effects of overgrazing (cf. Elson 1992; Scurlock 1995b:2).

THE ANGLO-AMERICAN PERIOD

Conquest of the region by the United States in the Mexican War ultimately led to serious changes in both land ownership and patterns of range use in New Mexico. Differences in American and Spanish land laws, as well as unscrupulous land speculation, eventually resulted in the loss of over 80% of the Spanish and Mexican land grants to their original owners (Harper et al. 1943:17-21; Eastman et al. 1971:4-5). The Treaty of Guadalupe Hidalgo guaranteed the property rights of all former Mexican citizens living within the Territory, and Congress designated itself the body to rule on the validity of land claims. Unfortunately, the adjudication process was fraught with problems. Grant boundaries were often vague, many of the original titles had been lost, and common ownership of pasture and woodlands was at odds with established American concepts of private ownership. Thus, many grants were never confirmed and ended up in the public domain (Eastman et al. 1971:5). Often, house lands and small irrigated plots were confirmed, but the community pasture and woodlands, essential to the survival of mixed farmers, were not. In addition, much land that was confirmed was lost through inability to pay taxes under the American system of monetary tax payments. Also under the American system, common lands could be sold without consent of all owners (de Buys 1985:178-179).

Other forces of change were also at work during this time with the economy changing from a subsistence to a commercial base in at least some critical areas. The population of the territory grew tremendously during this period fueled by in-migration from the United States. Many of these immigrants brought substantial capital for investment in large-scale operations and a nineteenth-century, entreprenurial resource utilization ethic focused on maximum harvest for maximum profit (Scurlock 1995b:2). To add to the climate of growth and development, federal and territorial legislation, initially designed to foster primarily Anglo-American development, promoted intensive use of the environment (Scurlock 1995b:2). These factors, combined with expanding markets opened by the entrance of the railroad into the Rio Grande Valley in 1880 and the final subjugation of the nomadic

Indian groups, led to rapid increases in large, commercial ranching operations. Commercial farming, timbering, and mining also flourished (Harper et al. 1943:48).

The livestock industry expanded tremendously in the 1870s and 1880s, not only in numbers but also in geographic extent. Though overcrowding of the range and drought in the 1890s caused reductions in stock numbers, there were still three and one-half million sheep (Carlson 1969:37-39) and one million head of cattle at the turn of the century (Elson 1992). Sheep numbers had peaked at five and one-half million in 1884 (Carlson 1969:37). Over-expansion of the livestock industry led to overgrazing with subsequent vegetation loss and soil erosion in this arid environment, as did large-scale timber harvesting. Both of these negatively impacted water quality of both tributary streams and the Rio Grande itself (Eastman et al. 1971:6).

In order to deal with problems of land degradation and overexploitation of resources throughout the west, the thrust of federal legislation changed from promotion of intensive resource use to promotion of resource conservation. As a part of this effort, Forest Reserves were established in the early 1900s. In the northern and central portion of the state, these reserves later became the Carson, Santa Fe, and Cibola National Forests. These forests encompass all or portions of various former land grants that were lost to the original grantees. Twenty-two percent of the Santa Fe and Carson Forests comes from lands that had been used by Hispano villages, primarily as community grant lands (Eastman et al. 1971:6-7; de Buys 1985:235-277). Somewhat more than 25% of the land area of northern New Mexico, and over 40% of Taos County, lie within the National Forest system (Hassell 1968:2; de Buys 1985:255).

Many of these lands came into federal control in seriously degraded condition. Rehabilitation work is ongoing today. Much of this work focuses on restoring degraded range land by means of reduction in stock numbers, development of rotational grazing systems, and movement of animals out of severely impacted areas. Federal land managers also often insist on improvements such as fencing and the development of waters, which ranchers who graze their animals on federal lands (permittees) are supposed to help construct and maintain. They may then graze their animals on forest land, in the cases under discussion, for fees that are considerably less than would be charged on private lands. However, since many of the permittees are the descendents of former grantees, they often deeply resent government restrictions and payment to use land they consider to be rightfully theirs.

IMPORTANCE OF DOMESTICATED ANIMALS IN THE RURAL VILLAGES

Anglo-American influence has increased considerably in the region since the depression. In the ensuing years, the history of the small Hispano communities located near the National Forests has been one of continued land loss, economic decline, and poverty. Economic need has forced people from the land and out of the villages into migrant labor and removal to the cities (Rodriguez 1987:381). Those who stay often commute to wage work in a nearby city. For those who remain in the small communities, their domesticated animals have an importance that is out of proportion to their numbers.

Most of the small-scale livestock operators do not depend on their animals for their full support; they generally have outside jobs of some sort. They see their animals first and foremost as a means of savings, as banks-on-the-hoof, which can be used in hard times. Animals serve as a back-up resource for emergencies, for periods of unemployment, or for special needs like college tuition for the children. They also add to subsistence security by providing meat and milk for the family no matter what the supermarket price is or the condition of family finances. In some years, a small profit may be made if some animals are sold. Even small gains can be very important to families operating at or below the poverty level (Eastman and Gray 1987:39-50; Raish 1992; William de Buys, personal communication, 1995).

In addition to the economic considerations, small-scale livestock producers stress the importance of the quality of life that ranching provides them and their families. They speak in terms of preserving a working relationship with the land that can be passed on with pride to their children and of the importance of self-sufficiency and frugality that the rural life teaches. Owning animals is very important to them as a way of reaf-

firming ties to their ancestral lands and heritage. Cooperative work arrangements and participation in livestock related community events such as branding and butchering also help to keep alive social cohesion in the community. In many cases, the extra buffer that the animals provide allows the family to stay in the ancestral, rural community and continue at least a portion of the traditional lifestyle (Eastman and Gray 1987:39-50; William de Buys, personal communication, 1995). The more rural and remote the community, the more important the ranching option becomes.

LAND GRANT LOSS AND HISPANIC GRAZING PROTEST

Considering the importance of domesticated stock to the rural villagers, it is no surprise that federal agency attempts at range restoration, conservation, and grazing regulation have been met with considerable opposition in some areas. Community grant losses limit the grazing areas open to many villagers. For example, the small community of Cañones, located near the northern portion of the Santa Fe Forest, lost community grant lands to speculators who ultimately sold the land to the federal government in 1937. As a result, 89% of the Cañones valley is owned by the Forest Service, and the village is surrounded on three sides by National Forest (Van Ness 1987:201).

Patterns of overstocking, attempts at range improvements, and negative reactions to improvement programs are clearly seen on the Carson and Santa Fe Forests. In a Forest Service report of 1938, it was estimated that demand for grazing on portions of the Carson and Santa Fe exceeded potential by 111% (Hassell 1968:12). In the late 1960s, estimates showed grazing obligations on the two forests to be for 21,637 cattle and 32,203 sheep, compared to an estimated capacity of 14,370 cattle and 25,237 sheep.

Dating especially from the 1920s and accelerating in the period from the 1940s through the 1960s, livestock ranching on the two forests underwent tremendous changes as the economy changed and as the Forest Service implemented range improvement programs (de Buys 1985:247-249). There was a steady decline in both the number of permits and the number of animals permitted, from 2200 permits in 1940 to fewer than 1000 in 1970. Stock numbers were also reduced with some areas undergoing substantial cutbacks in the attempt to bring animal numbers in line with range capacity. The people of Cundiyo, who grazed their animals on the east side of the Pecos Wilderness, had herd reductions of 60%, while the permittees of Canjilon lost permits for 1000 cattle over a period of a few years (de Buys 1985:247-259). Free-use permits, issued for animals used in household operation such as milk cows and draft horses, were completely phased out by 1980. Also during this period, there was a major change in the kinds of animals being grazed, with massive declines in the numbers of sheep and goats under permit. By 1980, there were no goats on either forest and no sheep on the Santa Fe (de Buys 1985:247-248; Van Ness 1987:202). These significant changes came about both as a result of Forest Service direction and as a result of changes conditioned by the switch from a subsistence-based to a cash-based economy. Land losses and cutbacks in herd size undoubtedly pushed many people into the cash-based economy of wage work.

Throughout this period (1940s-1960s), considerable animosity developed between the Forest Service and the villagers. In 1967, protest coalesced in the form of the now-famous Tierra Amarilla Courthouse raid led by Reis Lopez Tijerina, founder of the Alianza Federal de Los Pueblos Libres, known as the Alianza. Two of the main goals of the protest were to bring the problem of massive land grant loss to world attention and to address a series of grievances concerning management of grazing on the National Forests.

FOREST SERVICE RESPONSE TO HISPANIC PROTEST

In the wake of the protest, there was considerable reexamination of Forest Service policies in northern New Mexico. The Forest Service produced the Hassell Report, titled The People of Northern New Mexico and the National Forests (Hassell 1968). The report recommended 99 measures, 26 of which related to grazing, to improve the situation of the Hispanic villagers. Many of these were implemented, more money was brought into the region, and progress was made.

In addition, the Forest Service developed a special policy for managing the forests of northern New Mexico.

What came to be known as the Southwestern Policy on Managing National Forest Lands in the Northern Part of New Mexico, or the North New Mexico Policy, had a philosophical base that stressed the importance of valuing and preserving the Hispanic and Indian cultures of the Southwest (Hurst 1972). Implementation was based on the recommendations of the Hassell Report (1968). Over the years, several progress reviews were conducted on implementation of the recommendations. After the final review in 1981, the Forest Service decided that a separate policy statement for the area was no longer needed and that further implementation would be through Regional and Forest mission statements and plans (Hassell 1981).

A review of several of the issues surfaced by Hispano groups in the late 1960s and addressed in Hassell's recommendations gives valuable information on the present-day status of these concerns on the two northern forests, with the majority of information drawn from the Santa Fe. These issues highlight both ongoing problems and areas of cooperation between the villagers and the Forest Service. Primary issues of concern, of course, have been stock reductions, reductions in numbers of permittees, consolidation of small permits, and elimination of free-use permits. Recommended changes in traditional livestock and range management procedures have also been topics of debate.

To deal with the problem of stock reductions and declining numbers of permits, various measures were suggested. These included continuing a high level of funding for range improvement programs, but discouraging crash programs designed solely to create forage and greatly increase grazing capacity. The report also recommended developing education programs showing the limitations of the range resource, so that false hopes would not be raised (Hassell 1968:14). As of 1995, both stock reductions and reductions in numbers of permittees had slowed very considerably. The big reductions had already occured prior to and into the 1970s.

There were some extensive forage creation programs on the two forests, however. These were undertaken primarily in the late 1960s and early 1970s as a result of expanded range funding. On Rowe Mesa south of Pecos, for example, ca. 13,000 acres were stripped of vegetation and converted to grassland. Cattle that had formerly grazed in the Pecos Wilderness were relocated to a portion of these lands (de Buys 1985:268). Unfortunately, many of these forage development projects had only limited success and were quite costly. Some were not well thought out, promising more than they could deliver and not considering other resources. In addition, much of the removed vegetation was pinyon-juniper, which created a fuelwood shortage in some areas (Dave Stewart, personal communication, 1995). As predicted in the initial recommendations, more lasting improvements have been achieved with more moderate range improvement and education programs (Hassell 1968:14). Expanded funding for range development is no longer being received by the Santa Fe (Jerry Elson, personal communication, 1995). The two northern forests are currently funded in the same way as the other forests of the region.

In addition to stock reductions and reductions in numbers of permittees, other areas of strong local concern focused on measures that eliminated special free-use permits for stock used in household operations and facilitated the reduction of small permits. Free-use permits were decidedly on the wane by the late 1960s and were never reinstated. Hassell (1968:15-16) recommended that they be completely eliminated owing to the environmental damage caused in areas close to the communities where the animals were constantly grazed, similar to the damage caused by close-in grazing during the Spanish Colonial period.

Small permits were also declining during the late 1960s at the time of the protests. A special grazing permit transfer policy on the Carson and Santa Fe prohibited transfer of a permit for less than 25 head to someone who did not already hold a permit. The objectives of the policy were to encourage consolidation of small permits into larger ones and also to retain permits with existing, local ranchers (Hassell 1968:19-21). Retention of permits within the local area was indeed beneficial for the small, rural communities, but forced consolidation was not. The majority of stock operations on the northern forests were small and were consistent with the village lifestyle, which held the stock as a partial subsistence and back-up resource, not as a commerical venture. Hassell's

report came out in favor of maintaining the small permits and actually creating more opportunities for small operations, if feasible (Hassell 1968:19-21).

Maintenance of small permits is certainly the case today on the Santa Fe (John Phillips, personal communication, 1995), though there are differences between the northern and southern portions of the forest. Large herds are not required and some permits have as few as four head. Areas in the southern part of the forest, within commuting range of the large urban centers, tend to have less emphasis on ranching with fewer permittees. Ranching emphasis is also a function of the nature of the land, of course. The Jemez District, for example, currently has 12 active grazing allotments, most of which are community allotments. Community allotments have more than one permitted individual using the allotted grazing land, so that the Jemez allotments have approximately 30 permittees. Herd size ranges from 150 to over 200 head for the four or five people who are full-time ranchers, down to six head. Most of the permittees are week-enders who commute to full-time jobs elsewhere.

The northern part of the Santa Fe is more remote, with fewer opportunities for outside employement and a stronger ranching traditiion. On the whole, there are more permittees and community allotments in this area, but there are fewer head per owner. Many have herd sizes of 10 or 12, but those 10 or 12 head are very important to the economics of the families who own them. These families are also more dependent on forest products for their livelihood than are forest users in other areas. They more closely approximate the rural villagers for whom the North New Mexico Policy was developed.

Finally, ongoing problems with implementation of range improvement programs that require departures from traditional livestock and range management practices were examined. These provide good information on land use practices that still cause environmental problems which must be solved, if sound ecosystem management strategies are to be implemented. Hassell acknowledged the difficulty of persuading ranchers to depart from traditional ways and the additional difficulty of dealing with large numbers of permittees involved on each allotment. He recommended agency assistance and education, especially during initial implementation of new rest-rotation programs, for example (Hassell 1968:18-19). Discussions with the professional range staff on the Santa Fe indicated that the large number of permittees and small herd sizes throughout the forest do indeed make the work more difficult and slow progress (Jerry Elson and John Phillips, personal communications, 1995). On the other hand, there is a strong awareness of the importance of the animals to the families who own them and a strong commitment to continue working with them to improve the condition of the range.

Many good projects and programs have been implemented in all areas of the forest in recent years, and there is increasing cooperation between the forest and the permittees in many areas. The Jemez District has recently completed a project on a portion of the East Fork of the Jemez River that has heavy recreation use, with environmental problems caused by overuse from both people and livestock. Livestock problems have been solved by adding range improvements in the form of fencing to keep the cattle in newly designated pastures that are not adjacent to the river (John Phillips, personal communication, 1995). As another example, the Coyote District recently won a Stewardship Award from the Environmental Protection Agency for watershed improvement work on the French Mesa Allotment.

Nonetheless, problems still remain over issues of range use, economics, and environment. In general, these problems are more entrenched and deeply rooted in the northern portions of the forest than in the southern areas. The more remote, northern communities located adjacent to the forest have considerably less economic opportunity than those communities nearer urban areas. The residents are more dependent on the forest lands for pasture, fuelwood, and other resources. Resentment of land loss to the federal government is still strong, as is resistance to altering traditional ways of doing things and accepting counsel from outsiders. Many of the problems discussed in the Hassel Report (1968) almost 30 years ago with respect to quality of life and quality of the land still remain. If sound environmental practices and ecosystem management are to be implemented in these areas, future research must focus on developing means of balancing resource conflicts between meeting human needs and preserving the quality

of the environment. The lessons of the past must be used to help design management practices for the present that protect the natural resource but do not ignore the human resource. Though special cultural conditions and traditional lifeways cannot be used as an excuse to ignore environmental degradation, neither should one-size-fits-all management practices be applied.

CONCLUSION

In order to understand the present-day configuration of the cultures that co-exist in northern New Mexico, it is necessary to understand the historic background of these groups and their subsistence practices. The village farming lifeway of the rural Hispanos has existed in the area for over 350 years, antedating Anglo-American control by 250 years. This lifestyle incorporates stock raising and forest use as vital parts of an economy that is distinct from large-scale Anglo-American commercial ranching and farming in other parts of the state. Though many economic changes have occurred in the small villages in the twentieth century, preservation of ties to the land is vital to preservation of the cultural traditions of the area.

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